**Commercial Horticulture**

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**Regular Contributors:**
Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant
Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)
Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)
Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)
Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)
Design, Layout and Editing: Suzanne Klick (Technician, CMREC)

**Extreme Weather**
By: Stanton Gill, UME

This summer has been pretty mild overall with a few variances. On July 18 and 19, the temperature soared and on Sunday and Monday there were heat index warnings issued by NOAA. On Sunday it reached over 100 °F in some parts of the state and the humidity was over 80%. Usually, when we have periods of high temperatures we see leaf scorching show up on many plants so watch for this damage over the next couple of weeks and remember the high temperatures of mid-July.
Scale Update
By: Nancy Harding, UMD, and Stanton Gill, UME

Obscure Scale (*Melanaspis obscura*) - armored scale
Steve Sullivan, The Brickman Group, found a maple sample encrusted in obscure scale in Northern Virginia. The females are loaded with eggs and there was the start of crawler emergence. Let us know if any of you are finding this scale in Maryland. We would like to see a sample to check the stage of this scale. Please send or bring to our lab at CMREC, 11975 Homewood Road, Ellicott City, Maryland 21042. You can reach Stanton at sgill@umd.edu.
**Control:** Based on the Northern Virginia sample I would say the timing is good to apply either Distance or Talus for the emerging crawlers.

Euonymus scale (*Unaspis euonymi*) - armored scale
Crawlers were found on euonymus in Annapolis on July 17. The accumulated degree days in Annapolis were 1953DD. Adult female scale covers are dark brown, convex, oystershell-shaped and approximately 3 mm long. Male covers are smaller and white. Males are winged and pale orange. Females are yellow. Crawlers are yellow-orange. Mated females overwinter. Host plants include most species of evergreen euonymus, and pachysandra.
**Monitoring:** Look on the undersurface of leaves for white male covers and on bark for brown female covers. Look for leaves spotted yellow on the upper surface and for dieback. Before spraying, check for the presence of beneficials such as lady beetle larvae and adults.
**Control:** If the degree days accumulations in your area are near 1953DD and your infested plants warrant control, a mixture of 1% horticultural oil and pyriproxyfen (Distance) or buprofezin (Talus) can be used to control crawlers.

Maskell Scale (*Lepidosaphes pallida*) – armored scale
When monitoring maskell scale on *Cryptomeria japonica* in College Park, we found the second generation of crawlers. Adult female covers are about 1/16 inch long, light brown, narrowly oyster-shell shaped. Male covers are similar but smaller. The body of adult females, eggs and crawlers are white. These scales are hard to see (use a hand lens) and tend to congregate in the leaf axils. There are two generations a year in Maryland. Fertilized adult females overwinter.

Control: The accumulated growing degree days in College Park as of July 20 were 1770 DD. If degree days in your area are close to 1770DD, you should closely monitor plants infested with Maskell scale. If crawlers are active and high enough to warrant control measures, it is time to treat. Apply pyriproxyfen (Distance) or buprofezin (Talus) and 0.5 - 1% oil mixture when crawlers are present.

Pine Needle Scale (*Chionaspis pinifoliae*) - armored scale
Last week we reported the start of the second generation of pine needle scale crawlers on *Pinus mugo* in Bowie, MD. This week, crawlers are still active (see photo); therefore, there is still time to treat infested plants. The accumulated degree days in Bowie, MD as of Monday July 20 were 1770.

Control: Many lady bird beetles and parasitic wasps feed on this pest; therefore, careful monitoring for predators and parasitoids, as well as using pesticides with little effect on beneficials, can allow biological control to suppress the population. If control is warranted, use a summer rate of horticultural oil or an insect growth regulator (IGR) such as Distance or Talus to target crawlers.

MDA Pesticide Container Recycling Program for 2015
For more information:
Gypsy Moths
Marty Adams, Bartlett Tree Experts, found gypsy moth females laying eggs on weeping willow in Hampstead on July 22. **Control:** Physically remove and destroy egg masses where possible.

Emerald Ash Borer
By: Stanton Gill, UME
A new paper was just published in the *Journal of Economic Entomology* on emerald ash borer control that some of you might want to obtain and read: *Efficacy of Soil-Applied Neonicotinoid Insecticides for Long-term Protection Against Emerald Ash Borer (Coleoptera: Buprestidae)*.

Weird Insects
Nancy Woods, Montgomery County Parks, found click beetles in her landscape. The larvae of these beetles are predaceous and feed on wood boring larvae. Look for these beetles under logs and in other damp places. The adults feed very little, if at all. They are harmless but interesting with the large eyespots. See Paula’s ‘Beneficial of the Week’ for more information on click beetles.

Azalea Lace Bugs
Mark Schlossberg, ProLawn Plus, Inc., reported that azalea lace bugs were very active in Timonium on July 24. Before applying any control measures look for active nymphs and/or adults on the undersides of the leaves of the above mentioned plants. Quite often there will be damage, but lace bugs are between generations or gone from the plant and control measures would do nothing.
Red Thread in Turf
Mark Schlossberg, ProLawn Plus, Inc., is reporting that red thread is still active in turf this week in Reisterstown. Red thread disease is caused by the fungal pathogen, *Laetisaria fuciformis*. Red thread can reduce turf density and lead to invasion by crabgrass and other weeds.

**Management:** Red thread tends to cause more damage to poorly nourished lawns. Maintaining adequate nitrogen levels will often reduce the problem. However, high nitrogen levels can create problems with other turf diseases. If the infection warrants treatment, fungicides include Bayleton, Banner MAXX, Chipco 26GT, Compass, Curalan, Daconil Ultres, Headway, Heritage and Insignia.

Scarlet Oak Sawfly
Craig Greco, Yardbirds, Inc., found scarlet oak sawfly larvae feeding on oak on July 22. Look for larvae on foliage. They have more than 5 pairs of prolegs.

**Control:** There are parasites and diseases that help control this pest. Most often control is not necessary, but Conserve would kill the larvae if control is needed.

Beneficial of the Week
By: Paula Shrewsbury, UMD

**Predators in the night: Click beetles**
As I mentioned in the IPM report last week, I have been spending some time looking at plants and bugs at night. Last week I discussed snowy tree crickets. Another insect that I am seeing frequently are click beetles. Click beetles are in the Elateridae family and there are over 9,000 species worldwide, with almost 1,000 of those species occur in North America. Other common names are elaters, snapping beetles, spring beetles, and skipjacks. These names come from an unusual and sometimes startling defense mechanism these beetles have when threatened by predators. Click beetle adults have tough bodies (hard exoskeletons) and they have a clicking mechanism. Click beetles have a “spine” on the underside of their
Click beetle larvae are also known as wireworms and are active in the soil. When the beetle snap these two sections it makes a loud clicking noise and sends the beetle up to several inches into the air. This behavior can be quite startling if you do not expect it. This mechanism is usually used as a defense when the beetle is threatened, but it also helps the beetle right itself if for some reason it ends up on its back.

Click beetle adults are elongate in shape and less than 2 centimeters in length. Most have dull colors and patterns. Most adults are nocturnal (often seen at lights near buildings) and are plant feeders, although they seldom cause damage to plants. Some species, however, are known to feed on aphids and other soft bodied insects. The adults and larvae of some species are luminescent. The larvae of click beetles are called wireworms and are found in soil. The larvae are slender, elongate (~1-1.5”), and have somewhat hard exoskeletons and 3 pairs of legs on their thorax. Many species are saprophytes feeding on dead insects and organisms in the soil. Other species of wireworms are serious agricultural pests of potatoes and strawberries. But there are species where the larvae are predacious and actively hunt in the soil for insects, insect eggs, and small invertebrates.

When you see a click beetle, pick it up and examine it closely. But be ready for it to click and jump suddenly.

Weed of the Week
By: Chuck Schuster

Beefsteak plant, *Perilla frutescens*, is a native of Asia, and is a member of the Mint family. It is a traditional Asian crop used in cooking. It is an invasive herbaceous annual found in Maryland and some surrounding states in turf edges near wooded areas or in landscapes. Beefsteak plant has opposite leaves that are green to purple in color, oval (ovate) in shape with a toothed margin. Leaves are two to five inches in length and one and one half to four inches in width. The stem is square. It has a distinct mint-like odor when handled. The flowers are white and purple, bell-shaped, and have fine hairs. The upper portion of the flower is three-toothed, and the lower portion two-toothed. The flowers occur in terminal clusters between July and October. Beefsteak plant has a fibrous root system, and its seeds spread by wind or water movement. It is very similar to basil and coleus, but the distinctive odor will help identify it. Beefsteak plant can grow to twenty-four inches in height.
Control of beefsteak plant can be done using manual removal, mowing to prevent seed production and using non selective translocated herbicides that include glyphosate products. Dicamba is a selective herbicide that can be used in combination with other products to control both annual and perennial broadleaf weeds.

Beefsteak plant can grow to 24 inches tall, has leaves with a mint-like odor and a fibrous root system
Photos: Chris Sargent, UMD

Plant of the Week
By: Ginny Rosenkranz

Photo correction: The photo in last week’s article was Quercus x bimundorum ‘Crimson Spire’.

Picea omorika ‘Berliner’s Weeper’ is a weeping Serbian spruce that grows 8-10 feet fairly quickly while young and then slows down and creeps up to 20-30 feet tall and 10-15 feet wide when mature. The silhouette of ‘Berliner’s Weeper’ is a narrow spire of a tree with branches that gracefully weep downward with the tips of the branches turning upwards. The bright evergreen needles have a silver underside that highlights the tips. When
Weeping Serbian spruce ‘Berliner’s Weeper’ adapts well to heat and humidity
Photo: Ginny Rosenkranz, UME

Phenology

<table>
<thead>
<tr>
<th>PLANT</th>
<th>PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)</th>
<th>LOCATION</th>
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<tr>
<td>Eutrochium fisulosum</td>
<td>First bloom</td>
<td>July 24 (Ellicott City)</td>
</tr>
<tr>
<td>Hibiscus moscheutos</td>
<td>Full bloom</td>
<td>July 24 (Ellicott City)</td>
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Degree Days (As of July 23)

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<td>Baltimore, MD (BWI)</td>
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<td>1953</td>
<td>2065</td>
<td>Dulles Airport</td>
<td>2108</td>
<td>1865</td>
<td>2096</td>
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<td>Reagan National</td>
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<td>2316</td>
<td>St. Mary’s City</td>
<td>2190</td>
<td>2037</td>
<td>2207</td>
</tr>
</tbody>
</table>

To check degree day (DD) accumulations in your local area go to:
http://www.yourweekendview.com/outlook/agriculture/growing-degree-days/. Note: degree days reported in this newsletter use a base temperature of 50 °F, a start date of January 1st, and the date of monitoring as the end date.

New and Alternative Crops for Greenhouse and Nursery Growers
August 5 2015 (8:00 a.m. - 3:15 p.m.)
Location: Brookside Gardens, Wheaton, MD

Native plants: How to grow in the greenhouse from seed and cuttings. Dr. Sara Tangren, University of MD Extension
Producing cut flowers and vegetables using hydroponics from a working greenhouse operation. Matthew Bauer, Flowers by Bauer, Harford County, MD
New tissue culture plants for greenhouse production. Heather McDermott, AgriStarts Tropicals, Natives, Edibles, & More
Hops as an alternative crops. Tom Barse, Stillpoint Farm
Ginseng: Is it green gold? Dr. Marla McIntosh, University of Maryland
Hydroponic fertility. Cari Peters, Peters Lab, PA
Growing native annuals and perennials for marketing as pollinator plants and to benefit beneficial insects and mites. Dr. Sara Tangren, and Stanton Gill, University of Maryland Extension
Tour of Brookside Production Facility. Joe Kraut, Head Grower, Brookside Gardens

To register:
Upcoming Conferences:

**Alternative Greenhouse Crops Conference**
August 5, 2015
Location: Brookside Gardens, Wheaton, MD

**MAC-ISA Arborist Certification Course**
August 17-19, 2015
Location: NVCC Loudoun Campus, Sterling, VA
www.mac-isa.org

**FALCAN Truck and Safety Seminar**
August 19, 2015
Location: Urban Fire Hall, Urbana, MD
http://falconmd.com

**LCA Hands-on Training Seminar**
September 16, 2015
Location: Johns Hopkins University, Montgomery County Campus

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